

WE CLAIM:

1. An orienter device for orienting a container in a desired rotational position prior to placement in a container carrier, the orienter device comprising:

a reader for determining an initial orientation of the container;

a control system for determining a shortest rotational distance from the initial orientation to the desired rotational position between a clockwise direction and a counterclockwise direction; and

a chuck engaged with the container and in communication with the control system for rotating the container the shortest rotational distance to the desired rotational position.

2. The orienter device of Claim 1 wherein the control system calculates a distance between the initial orientation of the container and the desired rotational position of the container and provides a signal to the chuck to move the container to reach the desired rotational position in the shortest rotational distance.

3. The orienter device of Claim 1 further comprising a plurality of chucks arranged in a wheel.

4. The orienter device of Claim 1 further comprising:  
a star wheel having a plurality of pockets, each pocket of the plurality of pockets accommodating a container, the star wheel maintaining the desired rotational position of the container from the chuck to the container carrier.

5. The orienter device of Claim 1 further comprising:  
a resilient insert positioned in each pocket of the plurality of pockets.

6. The orienter device of Claim 1 further comprising:  
a bi-directional motor connecting the chuck to the control system.

7. The orienter device of Claim 1 wherein the reader comprises:  
a digital camera to capture an image of the container.

8. A system for packaging oriented containers in a container carrier,  
the system receiving a plurality of unoriented containers at an inlet, the system comprising:

a digital reader, the digital reader determining an initial orientation of  
an unoriented container of the plurality of unoriented containers;

an orienter wheel connected with respect to the inlet and in  
communication with the digital reader, the orienter wheel including a chuck, the

chuck rotating the unoriented container in a shortest rotational distance from the initial orientation into an oriented position having a desired rotational position; and a packaging machine for placing a container carrier around a plurality of oriented containers.

9. The system of Claim 8 further comprising:

a star wheel positioned directly adjacent to the orienter wheel, the star wheel having a plurality of pockets for transferring the oriented containers to the container carrier.

10. The system of Claim 9 wherein each pocket of the plurality of pockets includes an insert for maintaining the oriented position of the oriented container.

11. The system of Claim 9 further comprising:

a rail positioned around a perimeter of the star wheel, the rail having a smooth surface to permit the oriented containers to slide along the rail.

12. The system of Claim 8 further comprising:

a control system, the control system calculating a distance between the initial orientation of the unoriented container and the desired rotational position of the

oriented container and providing a signal to the orienter wheel to move the container counterclockwise or clockwise to reach the desired rotational position in the shortest rotational distance.

13. A method of packaging a plurality of containers in a container carrier comprising:

feeding a container of the plurality of containers into an orienter wheel having at least one chuck;

engaging the container with the chuck;

sensing an initial position of the container;

rotating the container with the chuck in a shortest rotational distance from the initial position of the container to an oriented position of the container;

fixing the container into the oriented position; and

applying the container carrier over two or more oriented containers.

14. The method of Claim 13 further comprising:

comparing the initial position of the container with a desired rotational position of the container; and

calculating the shortest rotational distance between rotating the container in a clockwise direction and a counterclockwise direction based upon the

difference between the initial position and the desired rotational position of the container.

15. The method of Claim 13 further comprising:  
transferring an oriented container in a fixed rotational position from the orienter wheel to the packaging machine.

16. The method of Claim 13 further comprising:  
transferring an oriented container in a fixed rotational position from the orienter wheel to a star wheel; and  
transferring the oriented container in the fixed rotational position from the star wheel to the packaging machine.

17. The method of Claim 13 further comprising:  
rotating the container less than 180°.

18. The method of Claim 13 further comprising:  
moving at least a portion of the container into flush contact with the chuck.

19. A method of orienting a container comprising:  
feeding a container into an orienter device; sensing an initial position of the container;  
determining a shortest rotational distance from the initial position of the container to an oriented position of the container; and  
rotating the container clockwise or counterclockwise into the oriented position of the container around the shortest rotational distance.

20. The method of Claim 19 further comprising:  
rotating the container less than 180°.